09/856,543

```
FILE 'HOME' ENTERED AT 08:51:21 ON 02 SEP 2004

*** YOU HAVE NEW MAIL ***

=> file biosis medline caplus wpids usptafull
'USPTAFULL' IS NOT A VALID FILE NAME
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.
ENTER A FILE NAME OR (IGNORE):uspatfull
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.42       0.42

FILE 'BIOSIS' ENTERED AT 08:52:35 ON 02 SEP 2004
Copyright (c) 2004 The Thomson Corporation.

FILE 'MEDLINE' ENTERED AT 08:52:35 ON 02 SEP 2004

FILE 'CAPLUS' ENTERED AT 08:52:35 ON 02 SEP 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WPIDS' ENTERED AT 08:52:35 ON 02 SEP 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'USPATFULL' ENTERED AT 08:52:35 ON 02 SEP 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

*** YOU HAVE NEW MAIL ***

=> s (attach? or link?)(6a) (hybrid or double strand?)(8a) (nucleic acid? or DNA)
   3 FILES SEARCHED...
L1         2258 (ATTACH? OR LINK?)(6A) (HYBRID OR DOUBLE STRAND?)(8A) (NUCLEIC
                ACID? OR DNA)

=> s l1 and conductive surface?
L2            7 L1 AND CONDUCTIVE SURFACE?

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3            7 DUP REM L2 (0 DUPLICATES REMOVED)

=> d l3 bib abs 1-7

L3   ANSWER 1 OF 7  USPATFULL on STN
AN     2004:203428  USPATFULL
TI     Molecular wire injection sensors
IN     Keen, Randy E., San Diego, CA, UNITED STATES
PA     KeenSense, Inc. (U.S. corporation)
PI     US 2004157319      A1   20040812
AI     US 2004-770914     A1   20040202 (10)
RLI    Continuation of Ser. No. US 2001-960165, filed on 20 Sep 2001, GRANTED,
       Pat. No. US 6699667 Continuation-in-part of Ser. No. US 1997-856822,
       filed on 14 May 1997, GRANTED, Pat. No. US 6060327
DT     Utility
FS     APPLICATION
LREP   BEYER WEAVER & THOMAS LLP, P.O. BOX 778, BERKELEY, CA, 94704-0778
CLMN   Number of Claims: 1
ECL    Exemplary Claim: 1
DRWN   7 Drawing Page(s)
```

LN.CNT 2665
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a sensor for sensing the presence of an analyte component without relying on redox mediators. This sensor includes (a) a plurality of conductive polymer strands each having at least a first end and a second end and each aligned in a substantially common orientation; (b) a plurality of molecular recognition headgroups having an affinity for the analyte component and being attached to the first ends of the conductive polymer strands; and (c) an electrode substrate attached to the conductive polymer strands at the second ends. The electrode substrate is capable of reporting to an electronic circuit reception of mobile charge carriers (electrons or holes) from the conductive polymer strands. The electrode substrate may be a photovoltaic diode.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 2 OF 7 USPATFULL on STN
AN 2004:70157 USPATFULL
TI Membrane scaffold proteins
IN Sligar, Stephen G., Urbana, IL, UNITED STATES
Bayburt, Timothy H., Urbana, IL, UNITED STATES
Schuler, Mary A., Urbana, IL, UNITED STATES
Civjan, Natanya R., Urbana, IL, UNITED STATES
Grinkova, Yelena V., Urbana, IL, UNITED STATES
Denisov, Ilia G., Urbana, IL, UNITED STATES
PI US 2004053384 A1 20040318
AI US 2003-465789 A1 20030618 (10)
RLI Continuation-in-part of Ser. No. US 2001-990087, filed on 20 Nov 2001, PENDING
PRAI US 2000-252233P 20001120 (60)
DT Utility
FS APPLICATION
LREP GREENLEE WINNER AND SULLIVAN P C, 5370 MANHATTAN CIRCLE, SUITE 201, BOULDER, CO, 80303
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 12 Drawing Page(s)
LN.CNT 3528
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Membrane proteins are difficult to express in recombinant form, purify, and characterize, at least in part due to their hydrophobic or partially hydrophobic properties. The membrane scaffold proteins (MSP) of the present invention assemble with target membrane or other hydrophobic or partially hydrophobic proteins or membrane fragments to form soluble nanoscale particles which preserve their native structure and function; they are improved over liposomes and detergent micelles. In the presence of phospholipid, MSPs form nanoscopic phospholipid bilayer disks, with the MSP stabilizing the particle at the perimeter of the bilayer domain. The particle bilayer structure allows manipulation of incorporated proteins in solution or on solid supports, including for use with such surface-sensitive techniques as scanning probe microscopy or surface plasmon resonance. The nanoscale particles, which are robust in terms of integrity and maintenance of biological activity of incorporated proteins, facilitate pharmaceutical and biological research, structure/function correlation, structure determination, bioseparation, and drug discovery.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 7 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-532626 [50] WPIDS
DNN N2003-422661 DNC C2003-143842
TI Molecular electronic component for construction of nanoscale electronic circuits comprises a redox active unit with an electron donor and an

electron acceptor with permanent contact points for connection to or components.

DC E19 L03 U12

IN HARTWICH, G; LOSSAU, H

PA (FRIZ-N) FRIZ BIOCHEM GMBH

CYC 101

PI WO 2003041182 A2 20030515 (200350)* GE 45
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
DE 10155054 A1 20030612 (200350)
DE 20121631 U1 20030618 (200350)
DE 10155054 C2 20031023 (200370)
AU 2002351666 A1 20030519 (200420)
EP 1442485 A2 20040804 (200451) GE
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

ADT WO 2003041182 A2 WO 2002-DE4144 20021108; DE 10155054 A1 DE 2001-10155054 20011109; DE 20121631 U1 Application no. DE 2001-10155054 20011109, DE 2001-20121631 20011109; DE 10155054 C2 DE 2001-10155054 20011109; AU 2002351666 A1 AU 2002-351666 20021108; EP 1442485 A2 EP 2002-787355 20021108, WO 2002-DE4144 20021108

FDT AU 2002351666 A1 Based on WO 2003041182; EP 1442485 A2 Based on WO 2003041182

PRAI DE 2001-10155054 20011109; DE 2001-20121631 20011109

AN 2003-532626 [50] WPIDS

AB WO2003041182 A UPAB: 20030805

NOVELTY - A molecular electronic component for the construction of nanoscale electronic circuits comprises a redox active unit with an electron donor and an electron acceptor whereby the electron donor and acceptor have permanent contact points for connection to or components.

DETAILED DESCRIPTION - A molecular electronic component (I) for the construction of nanoscale electronic circuits comprises a redox active unit with an electron donor (D) and an electron acceptor (A) whereby the electron donor and acceptor have a contact point (K1, K2) for connection to or components and the contact points (K1, K2) enable charge transport to and from the component (I) such that (K1) and (K2) are permanent contact points allowing the transport of charge via permanent chemical bonds whereby the contact points comprises one of the bonding parties of the chemical bond.

INDEPENDENT CLAIMS are included for:

(1) a molecular electronic module (II) comprising at least two components (I) connected via contact points;

(2) an electronic circuit (III) comprising at least one component (I) or module (II) whereby at least one component (I) is connected to an electrically **conductive surface**, preferably by covalent bonding or specific adsorption;

(3) processes for production of electronic circuits (III) in solution by either;

(a) forming a module (II) from derived number of components (I) in a stepwise manner and applying module onto an electrically **conductive surface**; or

(b) connecting a component (I) to an electrically **conductive surface** followed by step-wise addition of further components (I) to form desired circuit.

USE - The molecular electronic component (I) and module (II) are useful for production of nanoscale electronic circuits.

ADVANTAGE - The circuit is simple to prepare and is effective.

Dwg.0/6

L3 ANSWER 4 OF 7 USPATFULL on STN
AN 2003:64675 USPATFULL
TI Reactions on dendrimers
IN Neri, Bruce P., Madison, WI, UNITED STATES
Hall, Jeff G., Madison, WI, UNITED STATES
Lyamichev, Victor, Madison, WI, UNITED STATES
Smith, Lloyd M., Madison, WI, UNITED STATES
PI US 2003044796 A1 20030306
US 6692917 B2 20040217
AI US 2001-940244 A1 20010827 (9)
RLI Continuation-in-part of Ser. No. US 2000-732622, filed on 8 Dec 2000, PENDING Continuation-in-part of Ser. No. US 1999-350309, filed on 9 Jul 1999, GRANTED, Pat. No. US 6348314 Division of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Division of Ser. No. US 2000-381212, filed on 8 Feb 2000, PENDING A 371 of International Ser. No. WO 1998-US5809, filed on 24 Mar 1998, UNKNOWN
DT Utility
FS APPLICATION
LREP David A. Casimir, MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94104
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 210 Drawing Page(s)
LN.CNT 15736
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to compositions and methods for the detection and characterization of nucleic acid sequences and variations in nucleic acid sequences. The present invention relates to methods for forming a nucleic acid cleavage structure on dendrimers and cleaving the nucleic acid cleavage structure in a site-specific manner. For example, in some embodiments, a 5' nuclease activity from any of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific nucleic acid sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 7 USPATFULL on STN
AN 2002:27117 USPATFULL
TI Molecular wire injection sensors
IN Keen, Randy E., San Diego, CA, UNITED STATES
PA KeenSense, Inc. (U.S. corporation)
PI US 2002015963 A1 20020207
US 6699667 B2 20040302
AI US 2001-960165 A1 20010920 (9)
RLI Continuation-in-part of Ser. No. US 1999-365109, filed on 30 Jul 1999, PENDING
DT Utility
FS APPLICATION
LREP BEYER WEAVER & THOMAS LLP, P.O. BOX 778, BERKELEY, CA, 94704-0778
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 2729
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a sensor for sensing the presence of an analyte component without relying on redox mediators. This sensor includes (a) a plurality of conductive polymer strands each having at least a first end and a second end and each aligned in a substantially common orientation; (b) a plurality of molecular recognition headgroups having an affinity for the analyte component and being attached to the first ends of the conductive polymer strands; and (c) an electrode substrate attached to the conductive polymer strands at the second ends. The electrode substrate is capable of reporting to an electronic circuit reception of mobile

charge carriers (electrons or holes) from the conductive polymer strands. The electrode substrate may be a photovoltaic diode.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 7 USPATFULL on STN
AN 2001:220900 USPATFULL
TI Molecular wire injection sensors
IN Keen, Randy E., San Diego, CA, United States
PA KeenSense, Inc., San Diego, CA, United States (U.S. corporation)
PI US 6326215 B1 20011204
AI US 1999-365109 19990730 (9)
RLI Division of Ser. No. US 1997-856822, filed on 14 May 1997, now patented, Pat. No. US 6060327
DT Utility
FS GRANTED
EXNAM Primary Examiner: Chin, Christopher L.
LREP Beyer Weaver & Thomas LLP
CLMN Number of Claims: 27
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 3114
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a sensor for sensing the presence of an analyte component without relying on redox mediators. This sensor includes (a) a plurality of conductive polymer strands each having at least a first end and a second end and each aligned in a substantially common orientation; (b) a plurality of molecular recognition headgroups having an affinity for the analyte component and being attached to the first ends of the conductive polymer strands; and (c) an electrode substrate attached to the conductive polymer strands at the second ends. The electrode substrate is capable of reporting to an electronic circuit reception of mobile charge carriers (electrons or holes) from the conductive polymer strands. The electrode substrate may be a photovoltaic diode. Also disclosed is method of forming a sensor capable of sensing the presence of an analyte component. This method includes (a) contacting a sensor substrate (e.g., a device element of a device on semiconductor chip) with a first medium containing mobile conductive polymer strands or precursors of the conductive polymer strands; (b) applying a first potential to the substrate sufficient to form a first structure having the conductive polymer strands affixed into the substrate; (c) contacting the sensor substrate, with affixed conductive polymer strands, with a second medium containing mobile molecular recognition headgroups; and (d) applying a second potential to the substrate sufficient to affix the molecular recognition headgroups to the affixed conductive polymer strands.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 7 USPATFULL on STN
AN 2000:57621 USPATFULL
TI Molecular wire injection sensors
IN Keen, Randy E., San Diego, CA, United States
PA Keensense, Inc., San Diego, CA, United States (U.S. corporation)
PI US 6060327 20000509
AI US 1997-856822 19970514 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Chin, Christopher L.
LREP Beyer & Weaver, LLP
CLMN Number of Claims: 36
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 2968

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a sensor for sensing the presence of an analyte component without relying on redox mediators. This sensor includes (a) a plurality of conductive polymer strands each having at least a first end and a second end and each aligned in a substantially common orientation; (b) a plurality of molecular recognition headgroups having an affinity for the analyte component and being attached to the first ends of the conductive polymer strands; and (c) an electrode substrate attached to the conductive polymer strands at the second ends. The electrode substrate is capable of reporting to an electronic circuit reception of mobile charge carriers (electrons or holes) from the conductive polymer strands. The electrode substrate may be a photovoltaic diode.

Also disclosed is method of forming a sensor capable of sensing the presence of an analyte component. This method includes (a) contacting a sensor substrate (e.g., a device element of a device on semiconductor chip) with a first medium containing mobile conductive polymer strands or precursors of the conductive polymer strands; (b) applying a first potential to the substrate sufficient to form a first structure having the conductive polymer strands affixed to the substrate; (c) contacting the sensor substrate, with affixed conductive polymer strands, with a second medium containing mobile molecular recognition headgroups; and (d) applying a second potential to the substrate sufficient to affix the molecular recognition headgroups to the affixed conductive polymer strands.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l3 1 kwic

L3 ANSWER 1 OF 7 USPATFULL on STN

SUMM . . . the mediator is oxygen. In biosensors, another mediator compound may be employed to transfer electrons between the enzyme and a **conductive surface** of an electrode at a rate representative of the enzyme catalyzed reaction rate when an appropriate potential is applied to. . .

DETD [0153] Preferably, a liquid crystal B-**DNA** type **double -stranded** structure is deposited, electrically **attached**, and uniaxially oriented in parallel extended conformation orthogonal to the surface of a semiconductor in specific chemically or electrochemically activated. . .

DETD . . . liquid crystalline molecular recognition surface structure is deposited, electrically attached, and uniaxially oriented at the surface of a liquid crystal B-**DNA double-stranded** structure which was deposited, electrically **attached**, and uniaxially oriented at the surface of p-type semiconductor in specific chemically or electrochemically activated regions. Oriented DNA duplex polyelectrolytes. . .

=> d l3 7 kwic

L3 ANSWER 7 OF 7 USPATFULL on STN

SUMM . . . the mediator is oxygen. In biosensors, another mediator compound may be employed to transfer electrons between the enzyme and a **conductive surface** of an electrode at a rate representative of the enzyme catalyzed reaction rate when an appropriate potential is applied to. . .

DETD Preferably, ai liquid crystal B-**DNA** type **double-stranded** structure is deposited, electrically **attached** , and uniaxially oriented in parallel extended conformation orthogonal to the surface of a semiconductor in specific chemically or electrochemically activated. . .

DETD . . . liquid crystalline molecular recognition surface structure is deposited, electrically attached, and uniaxially oriented at the surface of a liquid crystal B-**DNA double-stranded** structure which was deposited, electrically **attached**, and uniaxially oriented at the surface of p-type semiconductor in specific chemically or electrochemically activated regions. Oriented DNA duplex polyelectrolytes. . .

=> d l3 4 kwic

L3 ANSWER 4 OF 7 USPATFULL on STN

=>